



An ISO 9001
Company

Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

CAPITAL EQUIPMENT / MATERIALS MANAGEMENT

ENQUIRY	Phone: +91 431 257 7421/ 7297 Email : vkarna@bhel.in , hari.r@bhel.in Web : www.bhel.com
NOTICE INVITING TENDER	

TWO PART BID	Enquiry Number:	Enquiry Date:	Due date for submission of quotation:
Tender to be submitted in two Parts	2631900037	27.09.2019	21.10.2019

You are requested to quote the Enquiry number date and due date in all your correspondence. This is only a request for quotation and not an order.

Please note that under any circumstances both delayed offer and late offers will not be considered. Hence vendors are requested to ensure that the offer is reaching physically our office before 14:00 hrs on the Date of tender opening.

Item	Description	Quantity
10	Tilting Turn Table 1 Ton as per the technical specification & commercial conditions applicable (to be downloaded from web site www.bhel.com or https://eprocure.gov.in/epublish/app)	1 No.

Important points to be taken care during submission of offer

1. Delivery terms shall be FOR BHEL Stores, Trichy for indigenous vendors and CFR Chennai Airport/ Seaport for foreign vendors.
2. Compliance Form MM/ CE/ TRY/ IMP/ 04 & MM/ CE/ TRY/ IND/ 04A to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation.
3. Delivery period required is 3 months from the date of Purchase Order.
4. Erection and commissioning activities shall be done by the supplier, at BHEL, Trichy works.
5. Time period required for Erection and Commissioning activities shall be 1 week from the date of intimation by BHEL
6. All updates, amendments, corrigenda, etc., (if any), for each tender will be posted only on the above websites from time to time, as and when required, until each tender is opened. There will be no publication of such updates, amendments, corrigenda, etc., through newspapers or any other media.

BHEL's General guidelines / instructions (refer MM/CE/GENL/001- No EMD), compliance form and technical specification can be downloaded from BHEL web site <http://www.bhel.com> or from <https://eprocure.gov.in/epublish/app> under Enquiry reference "2631900037".

Tenders should reach us before 14:00 hours on the due date
Tenders will be opened at 14:30 hours on the due date
Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present

Yours faithfully,
For BHARAT HEAVY ELECTRICALS LIMITED

[Signature]
R. HARI
Engineer
MM / Capital Equipment
BHEL, TRICHY - 620 014

TILTING TURN TABLE (CAPACITY: 1 TON) – Qty: 1 No.

PART A

SECTION – 1: Qualifying Criteria

The Bidder has to compulsorily meet the following requirements to get qualified, for evaluation of the technical offer.

S. NO.	PARTICULARS	BIDDER's RESPONSE
1.1	Only those Bidders / OEMs, who have supplied and commissioned a minimum of 3 number of Tilting turn table of capacity 1 Ton or higher in the past 5 years (as on the first date of opening of Tender) are eligible to quote	
1.2	Bidder has to submit at least ONE Performance Certificate from their customer, for satisfactory performance of the equipment specified in 1.1 and meeting the following conditions: a) The Equipment must have been supplied within the last five years as on the first date of tender opening. b) The Equipment must have performed satisfactorily for at least one year during this period. For obtaining the Performance certificate, a suggestive format is provided in Annexure .	
1.3	BHEL reserves the right to verify the information provided by the Bidder. In case the information provided is found to be false/ incorrect, the offer is liable for rejection.	

Section 2: Information to be provided by the bidder:-

S. NO.	PARTICULARS	BIDDER's RESPONSE
2.1	The BIDDER to furnish Reference List of Customers with Complete contact details where similar machine is supplied in the last five years.	
2.2	Details of similar Equipment supplied to BHEL units, if any. (Year of commissioning, Application, Type)	
2.3	Details on SERVICE-AFTER-SALES Set-Up in India including the Address of Agents / Service Centers in Tamilnadu/India.	
2.4	Any Additional Data to supplement the manufacturing capability of the BIDDER for the subject equipment.	

TILTING TURN TABLE (CAPACITY: 1 TON) – Qty: 1 No.

PART A

Section 3: The BIDDER to note:

S. NO.	PARTICULARS	BIDDER's RESPONSE
3.1	The BIDDER / VENDOR shall submit the offer in TWO PARTS. 1. Technical Offer [with PART A & PART B] & commercial offer 2. Price Bid.	
3.2	The Bidder's offer against each clause in PART A & B of the offer should be filled by the BIDDER compulsorily with complete details.	
3.3	The BIDDER shall assure a continuous support for Spares and Service for Ten Years, from the date of commissioning of the equipment at BHEL Works.	
3.4	The Technical Offer shall be supported by Product Catalogue and Data Sheets in original and complete technical details / literature on the quoted model of equipment.	
3.5	The Commercial Offer (given with the Technical Offer) shall contain the Scope of Supply and the Un-Priced Part of the Price-Bid, for confirmation.	

TILTING TURN TABLE (CAPACITY: 1 TON) – Qty: 1 No.

PART A

ANNEXURE

Suggestive Format of Performance Certificate:

The performance certificate to be produced on Customer's Letter Head.

PERFORMANCE CERTIFICATE

1. Supplier of the Equipment/Machine :
2. Make & Model of the Equipment :
3. Month & Year of Commissioning :
4. Application for which Machine is used :
5. Weight Carrying capacity :
6. Performance of the Machine : Satisfactory / Not Satisfactory
(Strike off whichever is not applicable)
7. Any other Remarks :

Date :

Signature & Seal of the Authority
Issuing the Performance Certificate

TILTING TURN TABLE (CAPACITY: 1 TON) – Qty: 1 No.

PART B - Technical Specification

Clause	PARTICULARS AND BHEL SPECIFICATION	BIDDERS OFFER With Technical Details
1.0	Purpose – The turn tables are intended for holding of jobs for welding.	
1.1	JOB PROFILE: a) Circular Jobs: Dia.: 50 mm to 600 mm Thickness / Height: 600 mm (max) b) Others jobs: 600 mm x 600 mm (max) Thickness: 80 mm (max) c) Maximum weight of job: 1000 kg.	
2.0	Tilting Type Turn Table:	
2.1	Weight carrying capacity: 1000 kg when the table is in vertical position (perpendicular to the ground).	Bidder to confirm
2.2	Dia. of table: Around 800 mm with minimum 8 Nos. of Radial T-slots. Bidder to specify size of table and Size & Number of T slots	Bidder to specify
2.3	Hole at table center: Dia. 80 mm.	Bidder to specify
2.4	Height of table surface from floor level: Approximately 1000 mm – when the table is in horizontal position.	Bidder to specify
2.5	Turntable shall be useful for clamping jobs. It shall have rotation (B axis) and tilting (C-axis) arrangement. Rotation about the B axis: 360 Degrees	Bidder to confirm
2.6	Construction: Framework and table should be of rigid steel construction and minimum thickness of any component of the table /frame shall not be less than 16 mm thickness.	Bidder to confirm and provide details
2.7	Suitable lifting hooks shall be provided on the tilting table for using EOT crane in shifting it from one place to another place.	Bidder to confirm
2.8	There should not be any vibration and noise level should be less than 75 dB with in a distance of 1M.	Bidder to confirm
2.9	Display of “Angle of tilt” and “Speed of rotation”	Bidder to specify

TILTING TURN TABLE (CAPACITY: 1 TON) – Qty: 1 No.

PART B - Technical Specification

Clause	PARTICULARS AND BHEL SPECIFICATION	BIDDERS OFFER With Technical Details
2.10	Rotation Speed – Step less variable speed 0.5 rpm to 3 rpm. Rotation should be uniform (variation within 0.1 percent) and also without any jerk / interruption. The rotation speed should be selectable by user.	Bidder to confirm
2.11	Tilting angle shall be varying from -5° (ie. 5° below the Horizontal Axis) to 95° (ie. Vertical Axis). An angular scale graduated with an LC of 0.5 degrees shall be fitted to indicate the angle of tilt.	Bidder to confirm
2.12	Tilting shall be done by manual operation, table positioning at any angle between -5° to 95° and locking at that position shall be possible.	Bidder to confirm.
2.13	Tilting torque of the table :	Bidder to specify
2.14	Standard slewing ring is to be provided and to be protected from damage due to welding current by providing suitable earthing arrangement. The bearings of table and Slewing rings shall be of reputed makes of SKF/ FAG/ TIMKEN or any other reputed make which are acceptable to BHEL.	Bidder to confirm
2.15	Positional stability: The Turn table should be stable at any tilted position of the table with load of 1000 kg (maximum).	Bidder to confirm
3.0	ELECTRICAL:	
3.1	415V $\pm$ 10%, 50HZ $\pm$ 3 HZ, 3 Phase AC (3 wire system without neutral) Power Supply will be provided by BHEL at a single point near the table, as per layout recommended by Bidder. All types of cables, connections, circuit breakers etc. required for connecting BHEL's power supply point to different parts of the table/control boxes, shall be the supplied by the bidder. Cable from Main supply to the equipment is also in the scope of vendor.	Bidder to confirm

TILTING TURN TABLE (CAPACITY: 1 TON) – Qty: 1 No.

PART B - Technical Specification

Clause	PARTICULARS AND BHEL SPECIFICATION	BIDDERS OFFER With Technical Details
3.2	Motors shall conform to corresponding IEC or Indian Standards. Preferred makes of motors are SIEMENS/ABB. Any other makes suggested by the bidder is subject to the acceptance by BHEL.	Bidder to confirm and indicate compliance to standards
3.3	The KW rating of the motors to be specified	Bidder to specify
3.4	All pneumatics, if any shall be of Festo make and hydraulics, if any shall be of Rexroth / Vickers make. Any other makes suggested by the bidder is subject to the acceptance by BHEL.	Bidder to confirm
3.5	The drives shall be of SIEMENS/ABB or any other make acceptable to BHEL.	Bidder to confirm
3.6	BHEL prefers to have standard reputed gear boxes used in the machine. Gear boxes shall be of Radicon / greaves / Bonfiglioli or any other reputed make is subject to the acceptance by BHEL.	Bidder to confirm
3.7	All the cable trays required for laying of cables should be included in the offer.	Bidder to confirm
3.8	Wiring: All electrical motors, limit switches etc. on the machine shall be wired using PVC sheathed cable running in conduits to common terminal block. All cables, wires shall be neatly routed and fixed with proper identification.	Bidder to confirm
3.9	The Main control panel shall be fixed on the manipulator at a convenient location and shall have the following features: a) A suitable capacity Main switch such as MCB for total on/off of the machine. The main switch shall be operable without opening the control panel. b) Emergency stop push button. c) Panel / Remote key selector switch.	Bidder to provide details

TILTING TURN TABLE (CAPACITY: 1 TON) – Qty: 1 No.

PART B - Technical Specification

Clause	PARTICULARS AND BHEL SPECIFICATION	BIDDERS OFFER With Technical Details
	d) Light indication for 3 phase main input supply, drive trip, control on. e) Auto / Manual selector switch. f) Forward / Reverse / Off - selector switches for rotation and table tilting g) On / Off push buttons h) Single turn Potentiometer with graded scale for varying the rotational speed.	
3.10	A remote pendant with cable length of around 10 m to vary the speed shall be provided. The remote pendant shall have plug & socket type connection and shall have all relevant controls	Bidder to provide details
4.0	Spares: Itemized break-up of Mechanical, Electrical, Electronic and Pneumatic /Hydraulic Spares used on the machine in sufficient quantity as per recommendation of BIDDER for 2 years of trouble free operation on three shifts continuous running basis should be offered by BIDDER. This will be part of mandatory supply along with purchase order.	Bidder to furnish
4.1	Mechanical & Hydraulic Spares: Bearings, Clutches, gears and all types of Pumps, Valves, Pressure Switches / Transducers, Filters, Seals, 'O' Rings, Hydraulic Hoses, etc.	Bidder to furnish
4.2	Electrical Spares: All types of Drives, Relays, Contactors, Proximity Switches, Printed Circuit Boards, Push Buttons, Indicating Lamps, Semiconductor Fuses, Special Fuses, Circuit Breakers, Main Power Switch, etc.	Bidder to furnish

TILTING TURN TABLE (CAPACITY: 1 TON) – Qty: 1 No.

PART B - Technical Specification

Clause	PARTICULARS AND BHEL SPECIFICATION	BIDDERS OFFER With Technical Details
4.3	All types of spares for the total machine and accessories shall be available for at least ten years after supply of the machine. If machine or control is likely to become obsolete in this period, the bidder should inform BHEL sufficiently in advance and provide drawings of parts / details of spares & Bidders to enable BHEL to procure these in advance, if required.	Bidder to confirm
4.4	Bidder to confirm that complete list of spares for machine and accessories, along with specification / type / model, and name & address of the spare Bidder shall be furnished along with documentation to be supplied with the machine.	Bidder to furnish
5.0	DOCUMENTATION:	
5.1	The following documents shall be furnished along with the offer: a) GA drawing of the offered turn table with dimensions b) Turn table rotation, tilting & clamping mechanism. c) Makes of the bought-outs d) Construction features e) Electrical wiring diagram of the equipment connection.	Bidder to furnish
5.2	After placement of order the bidder shall submit the GA drawing with major dimensions with BOM and Electrical circuit with BOM for BHEL approval.	Bidder to confirm

TILTING TURN TABLE (CAPACITY: 1 TON) – Qty: 1 No.

PART B - Technical Specification

Clause	PARTICULARS AND BHEL SPECIFICATION	BIDDERS OFFER With Technical Details
5.3	3 sets of the following documents shall be furnished during inspection and supply: a) GA drawing with BOM b) Turn table rotation, tilting & clamping mechanism. c) The operator instruction manual d) Electrical Circuit with BOM e) Maintenance instruction manual f) Guarantee / warranty cards of all bought-outs	Bidder to confirm
5.4	Sub-assembly / Arrangement drawings with bill of materials and critical dimensions for the following: a) Table rotation / clamping arrangement. b) Table rotation drive arrangement. c) Table Tilting drive arrangement.	Bidder to confirm
6.0	ACCEPTANCE:	
6.1	Acceptance at bidder's works - The turn table shall be offered for inspection by BHEL at bidder's works prior to dispatch. All features of the turn table (weight carrying capacity, rotation speeds, tilting with load etc..) shall be demonstrated.	Bidder to confirm
6.2	Acceptance at BHEL - During commissioning the bidder should demonstrate all features of the turn-table as listed in 6.1	Bidder to confirm
7.0	Installation and commissioning at BHEL – Installation and commissioning of the turn tables at BHEL shall be in the scope of bidder	Bidder to confirm
8.0	Painting : All non-working surfaces and control panels shall be given a primer coat & two coats of paint with SYNTHETIC ENAMEL GLOSSY FINISH APPLE GREEN PAINT AS PER IS 5/1994. Shade : (ISC)NO-281. All unpainted surfaces shall be protected from rust during transit.	Bidder to confirm

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PART B - Technical Specification

Clause	PARTICULARS AND BHEL SPECIFICATION	BIDDERS OFFER With Technical Details
9.0	PACKING – The turn tables shall be packed rigidly to avoid any transit damage and dispatched	Bidder to confirm
10.0	GUARANTEE: 12 months from acceptance of the turn tables at BHEL or 18 months from dispatch whichever is earlier.	Bidder to confirm
11.0	GENERAL	
11.1	Turn table Model:	Bidder to specify
11.2	Total connected load (KVA):	Bidder to specify
11.3	Floor area required (Length, Width, Height) for complete turn table:	Bidder to specify
11.4	Painting of turn table / Electrical Panels :	Bidder to confirm
11.5	Total weight of the turn table	Bidder to specify